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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/690,463	10/20/2003	Jyh-Nan Cheng	JCLA12280	4843

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EXAMINER	
TRAN, TAN N	
ART UNIT	**PAPER NUMBER**
2826	

DATE MAILED: 02/16/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/690,463	Applicant(s) CHENG, JYH-NAN	
	Examiner TAN N. TRAN	Art Unit 2826	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 October 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *20 October 2003* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Information Disclosure Statement

1. If applicant is aware of any relevant prior art, he/she requested to cite it on form PTO-1449 in accordance with the guidelines set forth in M.P.E.P. **609.**

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 1, line 5; claim 9, line 6, "a drift region in the peripheral substrate of the source/drain region" is unclear as to what does applicant mean by a drift region in the peripheral substrate of the source/drain region?

In claim 1, lines 7-9, "a width of the drift region extending from a side boundary of the source/drain region increases stepwise from edge sections of the multi-finger transistor toward a central section of the multi-finger transistor" is unclear as to whether it is being referred to the

multi-finger transistor having a width of the drift region extending from a side boundary of the source/drain region increases stepwise from edge sections toward a central section of the multi-finger transistor.

In claim 9, lines 8-10, "a width of the drift region extending from a side boundary of the source/drain region increases with an increase in a distance between the transistor and pick-up region" is unclear as to whether it is being referred to the multi-finger transistor having a width of the drift region extending from a side boundary of the source/drain region increases with an increase in a distance between the transistor and pick-up region.

Drawings

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, a width of the drift region extending from a side boundary of the source/drain region increases stepwise from edge sections as recited in claim 1, a width of the drift region extending from a side boundary of the source/drain region increases with an increase in a distance as recited in claim 9, the drift region extension width is smallest in outmost sections and increases toward the central section of the multi-finger transistor as recited in claim 2, and the drift region extension width is zero in the outmost sections as recited in claim 4 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eikyu et al. (6,576,965) in view of Shiau et al. (2003/0155600).

With regard to claim 1, Eikyu et al. discloses a device having a transistor comprises a gate dielectric layer 11 and a gate 5 formed on a substrate 2; source and drain regions (3,4) formed in the substrate 2 and beside the gate 5; and lightly doped region (8,7) which serves as a drift region formed in the peripheral substrate and separating the source and drain regions (3,4) and a channel region under the gate 5; a width of the lightly doped region (8,7) extending from a side boundary of the source/drain region increases stepwise from edge sections toward a central section. (Note fig. 9I of Eikyu et al.).

Eikyu et al. does not disclose device having a plurality of parallel transistors.

However, Shiau et al. discloses device having a plurality of parallel transistors. (Note figs. 3b,4a of Shiau et al.).

Therefore, it would have been obvious to one of ordinary skill in the art to form the Eikyu et al.'s device having a plurality of parallel transistors such as taught by Shiau et al. in order to improve the device having high current capability for protecting from damage.

With regard to claims 2,3, Eikyu et al. and Shiau et al. disclose all the claimed subject matter except for the multi-finger transistor is divided into 2m+1 sections along an arrangement direction of the parallel transistors wherein m is 1 or 2, and the drift region extension width is smallest in the outmost sections and increases toward the central section of the multi-finger transistor. However, it would have been obvious to one of ordinary skill in the art to form the multi-finger transistor is divided into 2m+1 sections along an arrangement direction of the parallel transistors wherein m is 1 or 2, and the drift region extension width is smallest in the outmost sections and increases toward the central section of the multi-finger transistor because such structure is conventional in the art for forming a multi-finger transistor in order to improve the device having high current capability for protecting from damage. (Note fig. 3b of Shiau et al.) is cited to support for the well-know position.

With regard to claim 4, Eikyu et al. and Shiau et al. disclose all the claimed subject matter except for the drift region extension width is zero in the outmost sections. However, it would have been obvious to one of ordinary skill in the art to form the drift region extension width is zero in the outmost sections in order to improve the device having high current capability for protecting from damage. (Note fig. 1c of Applicant's Prior) is cited to support for the well-know position.

Claims 5-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eikyu et al. (6,576,965) in view of Shiau et al. (2003/0155600) and further in view of Applicant's Prior (APA).

With regard to claims 5-13, Eikyu et al. and Shiau et al. disclose all subject matter except for the substrate has a pick-up region; the drift region of a transistor is located under an isolation

layer and the gate of the same transistor partially covers the isolation layer wherein the isolation layer comprises a field oxide layer; and two adjacent transistor share a source region or drain region wherein a width of the drain region is larger than a width of the source region.

However, APA discloses the substrate 10 has a pick-up region 12; the drift region 150 of a transistor is located under an isolation layer 140 and the gate 110 of the same transistor partially covers the isolation layer 140 wherein the isolation layer comprises a field oxide layer; and two adjacent transistor share a source region 120 or drain region 130 wherein a width of the drain region 130 is larger than a width of the source region 130. (Note fig. 1B of APA).

Therefore, it would have been obvious to one of ordinary skill in the art to form the Eikyu et al. and Shiau et al.'s device having the substrate has a pick-up region; the drift region of a transistor is located under an isolation layer and the gate of the same transistor partially covers the isolation layer wherein the isolation layer comprises a field oxide layer; and two adjacent transistor share a source region or drain region wherein a width of the drain region is larger than a width of the source region such as taught by APA in order to minimize gate resistance.

Conclusion

6. Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tan Tran whose telephone number is (571) 272-1923. The examiner can normally be reached on M-F 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on (571) 272-1915. The fax phone numbers for the

organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for after final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TT

Feb 2005

Minhloan Tran
Primary Examiner
Art Unit 2826